

**COOLING OF A ROTOR FOR A
ROTARY ELECTRIC MACHINE
ABSTRACT OF THE DISCLOSURE**

A high-power electrodynamic machine has a relatively elongated rotor. In a preferred generator embodiment, a rotor having a winding formed integral therewith is integral to a hollow shaft mounted within a stator having a plurality of windings. The shaft has an axial end region with an inlet for a cooling fluid. The rotor winding is disposed in apposition to one of the stator windings. The rotor comprises a plurality of laminations. At least one pair of adjacent laminations has periodic slots. The slotted laminations are sandwiched between laminations without slots such that the slots in the adjacent laminations form a continuous, zigzag, generally radial outward passageway for the cooling fluid. The outlet of the passageway is arranged to discharge the fluid onto the winding to provide relatively even cooling along the entire length of the rotor without significantly reducing structural integrity.